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(init.)

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-28.   (Canceled)

29.   (Currently Amended) A method for identifying a compound that modulates the activity of a human c-Maf protein, comprising

providing an indicator cell that comprises a recombinant expression vector encoding a human c-Maf protein of SEQ ID NO.:2, wherein the human c-Maf-coding sequences are operatively linked to regulatory sequences that allow for constitutive expression of human c-Maf in the indicator cell, and a reporter gene responsive to the human c-Maf protein;

contacting the indicator composition with a test compound; and

determining the effect of the test compound on the activity of the human c-Maf protein in the indicator cell wherein the step of determining comprises evaluating the expression of the reporter gene in the presence and absence of the test compound, to thereby identify a compound that modulates the activity of a human c-Maf protein.

We claim:

1.   A method for modulating human c-Maf activity in a cell comprising contacting the cell with an agent that modulates human c-Maf activity such that human
5   c-Maf activity in the cell is modulated.

2.   The method of claim 1, wherein said agent stimulates human c-Maf activity.

10   3.   The method of claim 1, wherein said agent modulates human c-Maf activity by modulating the activity of the c-Maf polypeptide.

4.   The method of claim 1, wherein said agent modulates human c-Maf activity by modulating the transcription of the c-Maf gene.
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5.   The method of claim 1, wherein said agent modulates human c-Maf activity by modulating the transcription of the c-Maf mRNA.

6.   The method of claim 1, wherein said agent that modulates c-Maf activity
20   is a nucleic acid molecule encoding human c-maf.

7.   A method for stimulating human c-Maf activity in a cell comprising introducing into the cell a nucleic acid molecule encoding human c-Maf such that human c-Maf activity in the cell is stimulated.
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8.   The method of claim 7, wherein said nucleic acid molecule comprises a nucleotide sequence that encodes the polypeptide of SEQ ID NO:2.

9.   The method of claim 7, wherein said nucleic acid has at least 98%
30   nucleotide identity with the nucleotide sequence of SEQ ID NO: 1.

10.   The method of claim 7, wherein said nucleic acid has at least 99% nucleotide identity with the nucleotide sequence of SEQ ID NO: 1.

35   11.   The method of claim 7, wherein said nucleic acid has at least 99.5% nucleotide identity with the nucleotide sequence of SEQ ID NO: 1.

12.   The method of claim 7, wherein said nucleic acid comprises the nucleotide sequence of the coding region of the NheI/XbaI insert of plasmid pHu-c-Maf (ATCC Accession
No. 98671).

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13.   The method of claim 7, wherein said nucleic acid molecule is introduced into the cell by contacting the cell with the nucleic acid molecule.

14.   The method of claim 7, wherein said nucleic acid molecule is introduced
10   into the cell by contacting the cell with a composition comprising the nucleic acid molecule and a lipophillic carrier.

15.   The method of claim 7, wherein said nucleic acid molecule is introduced into the cell by transfecting or infecting the cell with a vector comprising nucleic acid
15   sequences capable of producing the nucleic acid molecule when transcribed *in situ*.
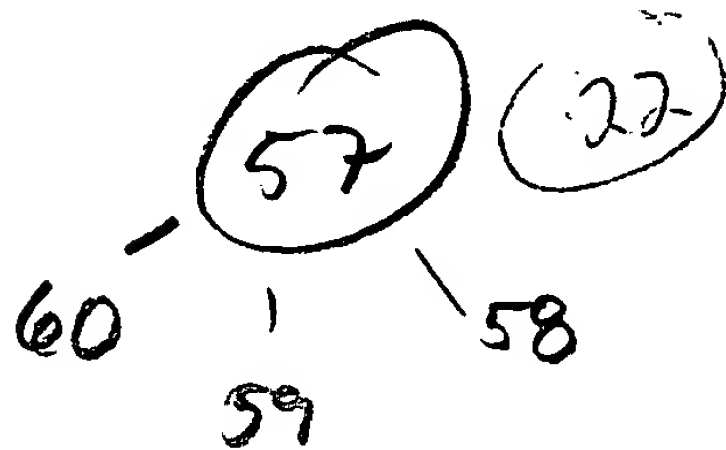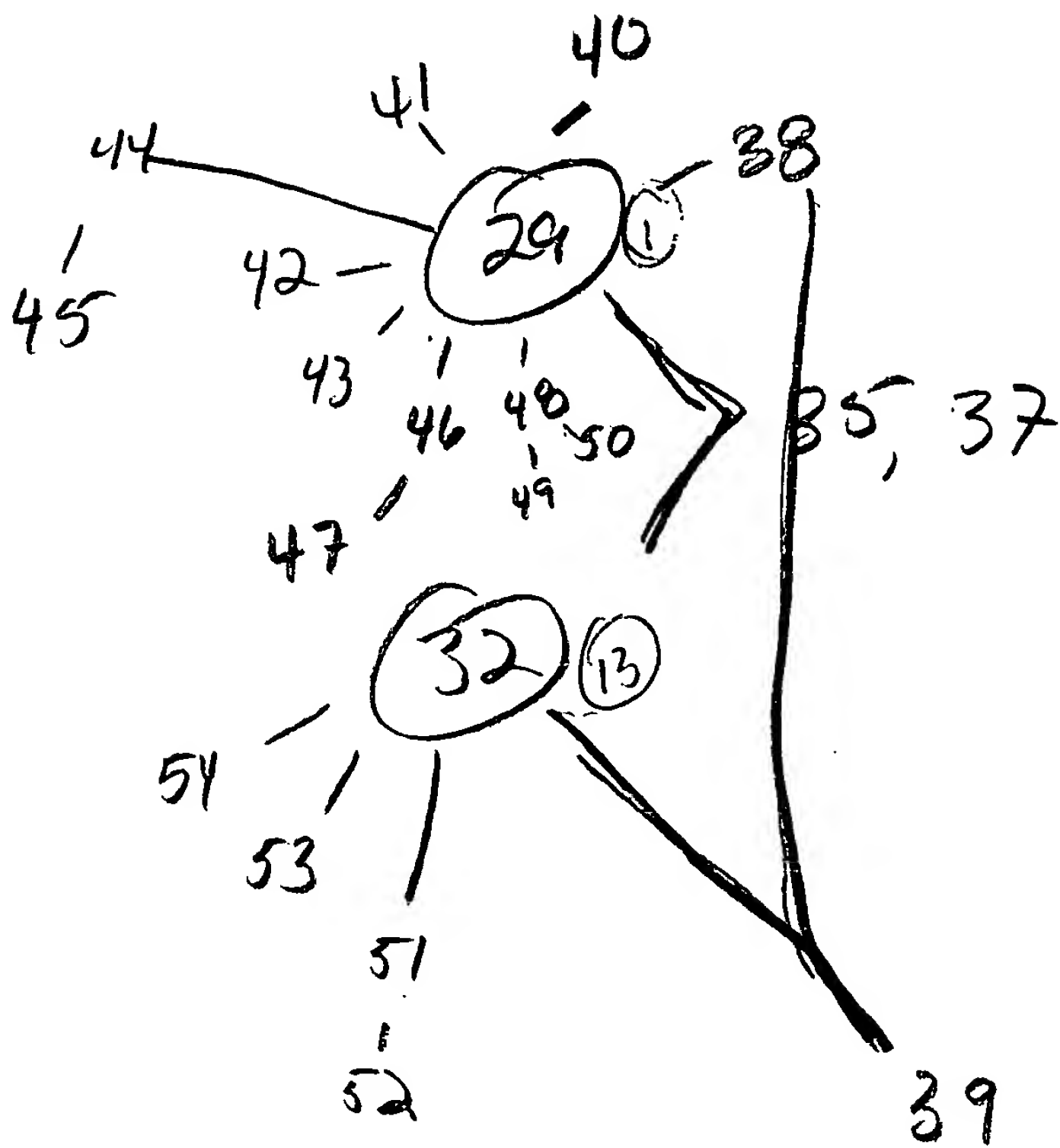
16.   The method of claim 7, wherein said nucleic acid molecule is introduced into the cell by injecting into the cell a vector comprising nucleic acid sequences capable of producing the nucleic acid molecule when transcribed *in situ*.

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17.   The method of claim 7, wherein said nucleic acid molecule is introduced into the cell by contacting the cell with a recombinant virus having the nucleic acid molecule incorporated into the retroviral genome.

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29, 32, 35   37-54, 57-60

30.-31. (Canceled)

32.   (Currently Amended) A method for identifying a compound that modulates an

immune response, comprising

providing an indicator cell that comprises a <u>recombinant expression vector encoding a</u>

human c-Maf protein of SEQ ID NO.:2, <u>wherein the human c-Maf-coding sequences are</u>

<u>operatively linked to regulatory sequences that allow for constitutive expression of human c-Maf</u>

<u>in the indicator cell,</u> and a Th2-associated cytokine gene responsive to the human c-Maf protein;

contacting the indicator composition with a test compound; and

determining the effect of the test compound on an immune response, wherein the step of

determining comprises evaluating the effect of the compound on expression of the Th2-

associated cytokine gene in the presence and the absence of the test compound, to thereby

identify a compound that modulates an immune response.

33-34. (Canceled)

35.   (Previously Presented) The method of claim 29 or 32, wherein the reporter gene

is operatively linked to regulatory sequences of a Th2-associated cytokine gene.

36.   (Canceled)

37.   (Currently Amended) The method of claim 29 or 32 ~~34~~, wherein the human c-Maf coding sequences are operatively linked to regulatory sequences of the endogenous human c-Maf gene, wherein the regulatory sequences of the endogenous human c-Maf gene comprise the untranslated sequences of the NheI/XbaI fragment of pHu-c-Maf (ATCC Accession No. 98671).

38.   (Previously Presented) The method of claim 29, wherein the reporter gene is a Th2-associated cytokine.

39.   (Previously Presented) The method of claim 32 or 38, wherein the Th2-associated cytokine is interleukin-4.

40.   (Previously Presented) The method of claim 29, wherein the reporter gene comprises nucleotides -157 to +58 relative to the +1 start site of transcription of the interleukin-4 gene.

41.   (Previously Presented) The method of claim 29, wherein the reporter gene comprises about 3 kb of upstream regulatory sequences of the interleukin-4 gene.

42.   (Previously Presented) The method of claim 29, wherein the reporter gene is selected from the group consisting of genes that encode: chloramphenicol acetyltransferase, beta-galactosidase, alkaline phosphatase and luciferase.

43.   (Previously Presented) The method of claim 29, wherein the indicator cell does not normally express human c-Maf.

44.   (Previously Presented) The method of claim 29, wherein the indicator cell is a B cell.

45.   (Previously Presented) The method of claim 44, wherein the indicator cell is a M12 B lymphoma cell.

46.   (Previously Presented) The method of claim 29, wherein the indicator cell is a Th1 cell clone.

47.   (Previously Presented) The method of claim 46, wherein the indicator cell is an AE7 cells.

48.   (Previously Presented) The method of claim 29, wherein the indicator cell is a nonlymphoid cell.

49.   (Previously Presented) The method of claim 48, wherein the indicator cell is a HEPG2 hepatoma cell.

50.   (Previously Presented) The method of claim 48, wherein the indicator cell is a yeast cell.

51.   (Previously Presented) The method of claim 32, wherein the effect of the test compound on an immune response is determined by determining the effect of the compound on production of a Th2-associated cytokine protein.

52.   (Previously Presented) The method of claim 51, wherein the Th2-associated cytokine gene is an interleukin-4 gene.

53.   (Previously Presented) The method of claim 32, wherein the effect of the test compound on the expression of a Th2-associated cytokine gene is determined by determining the effect of the compound on the development of T helper type 1 (Th1) cells.

54.   (Previously Presented) The method of claim 32, wherein the effect of the test compound on the expression of a Th2-associated cytokine gene is determined by determining the effect of the compound on the development of T helper type 2 (Th2) cells.

55.-56. (Canceled)

57.   (Currently Amended) A method for identifying a compound that modulates the activity of a human c-Maf protein comprising,

providing an indicator cell comprising a recombinant expression vector encoding a human c-Maf protein comprising the NheI/XbaI fragment of pHu-c-Maf (ATCC Accession No. 98671), , wherein the human c-Maf-coding sequences are operatively linked to regulatory sequences that allow for constitutive expression of human c-Maf in the indicator cell, and a cytokine gene responsive to the human c-Maf protein,

contacting the indicator cell with the a test compound, and

determining the effect of the test compound on human c-Maf activity by evaluating the level of cytokine production in the indicator cell in the presence and absence of the test compound, wherein a modulation of the level of cytokine production identifies the test compound as a modulator of the activity of a human c-Maf protein.

58.   (Previously Presented) The method of claim 57, wherein the level of cytokine production is determined by detecting cytokine mRNA in the indicator cell.

59.   (Previously Presented) The method of claim 57, wherein the level of cytokine production is determined by detecting cytokine secretion into the culture supernatant.

60.   (Previously Presented) The method of claim 57, wherein the cytokine is interleukin-4.